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A STUDY OF THE DANDELION.

BY E. LEWIS STURTEVANT, M.D.

THE dandelion is a plant of northern climates, especially found growing amidst the herbage of meadows, and as a weed in gardens. Its common name is a corruption of *dent de leon*, a word which is met with in the Welsh *Dant y Llew* of the 13th century. Its vernacular names in various languages have usually reference to the peculiar indentation of the leaves, or to some other resemblance or character of the plant. By commentators it has been identified with the *aphake* of Theophrastus, *a* in composition signifying absence of, and *phake* lentils, or the name perhaps signifying that the plant can be used as a green before lentils appear in the spring (?); the *ambubeia* of Pliny may suggest the scattering of the seed, *ambulo* meaning the going backward and forward, but some commentators assign this name to the wild endive or chicory; the *hedypnois* of Pliny is but doubtfully identified with our dandelion, and appears to be derived from two Greek words signifying sweet breath, and may refer to the sweet smell of the flowers. Pinæus, 1561, calls it *Dens Leonis*, *Dens Caninus*, *caput Monachi*, *Rostru porcinum* or *Ambubeia*, the *aphake* of Theophrastus; by the French, *Pissenlit* or *Dent de Lyon*; by the Germans, *Pfaffen roerlin*. Pena and Lobel, 1570, give additional names of *Urinaria*, German *Korlkraut* and *Phaffenblat*, Belgian *Pappen cruyt*, English *Dent de Lyon*. The modern vernacular names are: English *dandelion*, *swine's snout* (Prior); France *pissénlit*, *dent-de-lion* (Vilm.); German *lowenzahn* (Lenz); Flanders *molsalaad* (Vilm.); Danish *moelkebtte* (Vilm.); Italian *tarassaco* (Lenz), *dente de leone*, *virasole dei prati* (Vilm.); Spanish *diente de leon*, *Amargon* (Vilm.); Greek *agriomaroulia* (Sibth.), *pikraphake* (Fraas); Japanese *fosei* or usually *fudsina* or *tsugumi gusee* or *tampopo* (Pick.).

Bauhin, in his *Pinax*, edition of 1623, enumerates two varieties of dandelion, one the *Dens Leonis latiore filio* carried back in his synonymy to *Brunfelsius*, 1539; the other, *Dens Leonis angustiore folio*, carried back in like manner to *Cæsalpinus*, 1583. The first kind, he says, has a large and a medium variety, the leaves sometimes pointed, sometimes obtuse. In the *Flore Naturelle et Economique*, Paris, 1803, the same varieties, apparently, are mentioned, one with narrow leaves and the other with large

and rounded leaves. In Martyn's *Millers Dictionary*, 1807, the leaves of the dandelion are said to vary from pinnatifid or deeply runcinate in a very dry situation to nearly entire in a very moist one, generally smooth, but sometimes a little rough, and *Leontodon palustre* is described as scarcely more than a variety, as varying very much in its leaves which have few notches or are almost entire, the plant smoother, neater, more levigated and more glaucous than the common dandelion. In Geneva, N. Y., on the grounds of the New York Agricultural Experiment Station, a large number of varieties are to be commonly noted, both in the habit and appearance of the plant and irrespective of difference of soil or exposure, as varieties may readily be separated whose roots are intertwined. Some plants grow with quite erect leaves, others with their leaves closely adpressed to the soil; some have broad, others narrow leaves; some have runcinate leaves, others leaves much cut and almost fringed, and yet others the leaves nearly entire; some have almost sessile leaves, some have smooth leaves, others roughened leaves; some have thin, others thick leaves; some as varieties grow to a larger size, others are always dwarfer; some have an open manner of growth, others a close, etc.

The use of the wild plant as a vegetable seems to have been common from remote times, but its culture is modern. In 1836 a Mr. Corey, of Brookline, Mass., grew dandelions for the Boston market, the seed obtained from the largest of the wild plants (Mass. Hort. Soc. Trans., 1884, 128); in 1863 dandelions are described among garden esculents by Burr (*Field and Gard. Veg. of America*, 345), but the context not indicating any especial varieties; in 1828 Fessenden (*New Am. Gardener*) says the wild plant is used but never cultivated. In 1874 the seed appears for sale in seed catalogues (Briggs Bros. Cat., 1874), perhaps earlier, and the various seed catalogues of 1885 offer six names, one of which is the "common." In England, dandelion culture is not mentioned in Mawe's *Gardiner*, 1778, nor in Martyn's *Millers Dictionary*, 1807; the first notice I find is in the *Gardeners' Chronicle*, 1846 (p. 340), where an instance of cultivation is noted, the herbage forming "a beautiful and delicate blanched salad." In 1880 its culture had not become common, as this year its cultivation in France, and not in England, is noted (*Jenkins Jour. R. A. S.*, xvi, 94). In France, Noisette, 1829 (*Man. du Jard.*, 1829, 356) gives cultural directions, and says the wild plant fur-

nishes a spring pot-herb; the plant is, however, not mentioned in *L'Horticulteur Francais*, 1824-5, nor in *Nouveau Dictionnaire du Jardinage*, 1826. Vilmorin (*Bon Jardinier*, 1882) states its culture in France as dating from 1868, and the firm of Vilmorin, Andrew et Cie in 1885 offer four sorts of seed, one, the "improved moss" as new. In Vilmorin's *Les Plantes Potageres*, 1883, two forms are figured, *Pissenlit amelioré a cœur plein* and *Pissenlit amelioré tres hatif*. The first of these is named in *Album de Cliches*, *Pissenlit amelioré frise*, and a fourth name or third form is figured, the *Pissenlit mousse*.

1. The type of the *Pissenlit mousse* can be readily found among the wild plants of the station grounds, very closely resembling Vilmorin's figure in every respect when growing on rich soil except that the leaf divisions are scarcely as much crowded.

2. The type of the *Pissenlit amelioré a cœur plein* is perhaps to be recognized in Anton Pinæus' figure, 1561, and is certainly to be found growing wild at the station.

3. The *Pissenlit amelioré tres hatif* is figured in 1616, the resemblance between the two figures, the one by Dodonæus and the other by Vilmorin, is very close. It is also to be found growing wild on the station grounds.

The influence of rich soil and protected growth upon the dandelion is to give increased size and succulency to the plant, and to thicken the branching of the leaves, in the direction of answering the description of *a cœur plein*; but this influence appears to be limited by the heredity of the plant, as the types do not react to an equal extent. This fullness or hearting in No. 2 seems to come from the strong tendency in plants of this type to divide the root into a group of crowns; the leaves, also, in rich soil, grow rather upright with the upper portion curving outwards, giving a curled appearance to the plant, and thus justifying Vilmorin's alternate name "frise." The No. 3 form is more succulent in rich soil than the others, attains size distinctly earlier, is less crowded and less upright in growth, and in some cases is very closely adpressed to the ground. No. 1 type does not in all cases seem to be a depauperate form, as it is found on fertile soil along with the rest, it is usually small, but in some instances is of fair size and quite bunchy growth. A form with nearly entire leaves has not yet reached culture under a distinct name; this type is distinctly smaller than the rest, and some plants have

sessile and thickened leaves, other plants long petioled and spatulate-like thin leaves. In all the forms some plants may be looked for with hairy and roughened leaves.

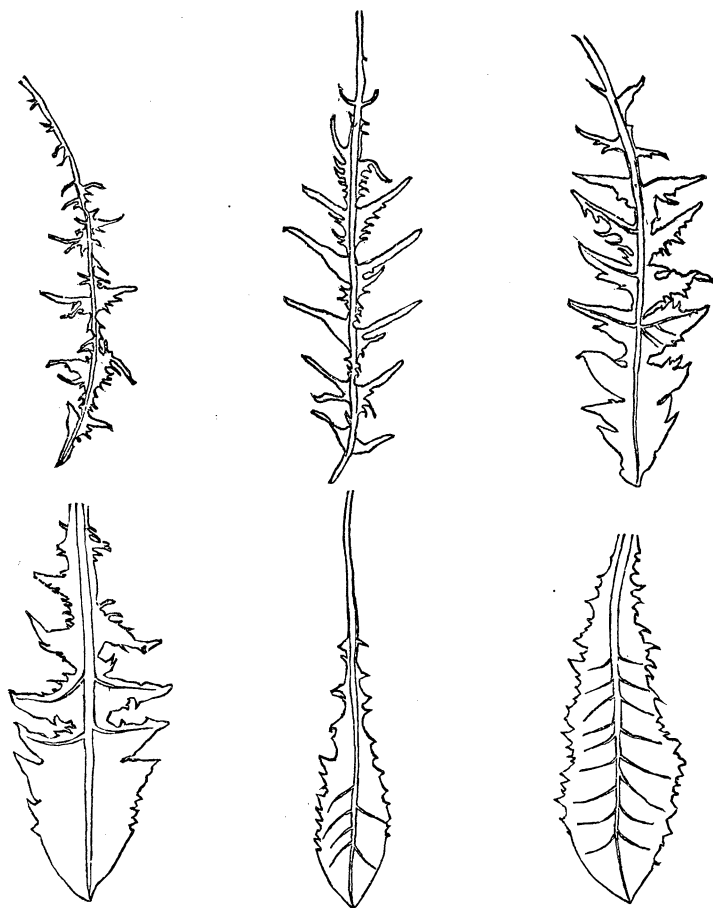
In view of the limited extent of the present culture of the dandelion, and the short time since its cultivation was first attempted, as well as to the fact that its present culture about Geneva seems unknown, it seems unreasonable to infer that our plants are escapes from cultivation, and much more so when it is considered that these same described types are common elsewhere in Western New York. If not escapes from cultivation the inference seems strongly established that our cultivated varieties did not originate under cultivation, but are simply selections from wild types. If this be granted it may be legitimately questioned whether other of our cultivated form-species in other plants are not likewise of natural origin.

A careful investigation into the history of the origin of our cultivated varieties fully justifies the statement that I have as yet secured no data which justifies the belief that form-species in culture are other than of natural origin, and I have secured much evidence in favor of the view that form-species are introductions from natural variations. Before, however, such a radical belief can receive countenance, much must be done in the herbarium study of varieties as collected from various sources, in order that we may have wild forms to which our cultivated types can be referred. Our so-called modern vegetables, introduced as novelties, often seem to be such only because we are unfamiliar with what our predecessors possessed. Thus the figure that Pinaeus gives, in 1561, of a lettuce answers to our stone tennis-ball variety as closely as do the figures in our seed catalogues to the varieties whose name they carry; the deer-tongue lettuce introduced as a novelty in 1883 seems nearly identical with the *Lactuca folio oblongo acuto* of Bauhin's *Prodrômus*, 1671; a large number of our capsicums or peppers seem to be identical with the varieties figured in *Hortus Eystettensis*, 1623; new types of squash followed the appearance of the Valparaíso from Chili in the early part of the present century, etc., etc.

Under the hypothesis that the form-species of cultivation are originally from nature, we can explain the permanency of these form-species, and their resistance to change from cross fertilization, the tendency seeming strongly towards trueness to type, and the purging themselves from contaminations unless restrained

perhaps by human selection. Thus two form-species of maize, when crossed, have not produced intermediates in their crop, but the parent types without intermediates, and the continuous planting of the progeny tended toward a complete separation into the original types. Various crossings of a like kind, made at the Experiment station, seem confirmatory of this view, and seem to suggest in addition that seeming sports are often the result of atavism.

Appended are a few of the variations which are to be found in the leaves of the dandelion, selected rather as representative than as exceptional. A series could readily have been selected showing a passage from one type to another, as frequently leaves of quite different appearance appear on the same plant.



Varieties of Dandelion leaves.